

EXAMINER'S AMENDMENT

Election/Restrictions

1. The restriction requirement between species A and B, as set forth in the Office action mailed on 08/26/2009, has been reconsidered in view of the allowability of generic claim 1. Therefore, applicant is entitled to consideration of claim 3 directed to species B which are written in dependent form or otherwise include all the limitations of the allowed generic claim 1 as provided by 37 CFR 1.141.

Examiner's Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Scott C. Hatfield on 07/13/2010.

The application has been amended as follows:

In the claims:

- In claim 1, at line 10, inserted --,-- after "the third temperature stage" and before the words "wherein the third".
- In claim 1, at line 11, replaced the term "a heat source of a heat drain" with "the heat-source or the heat-drain".

3. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, Venkatasubramanian discloses a thermoelectric device (see figs. 6 and 9) comprising: at least one unipolar couple element having two legs of a same electrical conductivity type (two P-type semiconductor legs as shown in fig. 9; see fig. 1 as shown in the office action dated 12/29/2009)); a first-temperature stage connected to one of said two legs; a second-temperature stage connected across said legs of the at least one unipolar couple element; and a third-temperature stage connected to the other of said two legs (see 2:55-5:32) (see fig. 1 as shown in the office action dated 12/29/2009). Venkatasubramanian discloses both the first and third temperature stages function as the heat source. However, the art of record fails to disclose "a thermoelectric device comprising: at least one unipolar couple element having first and second legs of a same electrical conductivity type; **a first-temperature stage connected to the first leg wherein the first temperature stage is configured to function as one of a heat-source or a heat-drain**; a second-temperature stage connected across the first and second legs of the at least one unipolar couple element; and a third-temperature stage connected to the second leg, wherein the first leg is between the first-temperature stage and the second-temperature stage, and wherein the second leg is between the second-temperature stage and the third temperature stage, **wherein the third temperature stage is configured to function as the other of the heat-source or the heat-drain.**"

Regarding claim 2 or 56, Venkatasubramanian discloses a thermoelectric device (see figs. 6 and 9) comprising: at least one unipolar couple element having two legs of a same electrical conductivity type (two P-type semiconductor legs as shown in fig. 9; see fig. 1 as shown in the office action dated 12/29/2009)); a first-temperature stage connected to one of said two legs; a

second-temperature stage connected across said legs of the at least one unipolar couple element; and a third-temperature stage connected to the other of said two legs (see 2:55-5:32) (see fig. 1 as shown in the office action dated 12/29/2009). Venkatasubramanian discloses where two adjacent p-type elements are coupled through electrical shorts (indicated by an "x" in Figure 8 of Venkatasubramanian), one of the two adjacent p-type elements does "not participate in the current transport through the thickness of the film." Venkatasubramanian, col. 4, lines 63-65. Accordingly, Venkatasubramanian does not disclose or suggest currents flowing in opposite directions in first and second legs of a same electrical conductivity type of a unipolar couple element as recited in claim 2 and claim 56.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Correspondence/Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GOLAM MOWLA whose telephone number is (571) 270-5268. The examiner can normally be reached on M-Th, 0800-1830 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ALEXA NECKEL can be reached on (571) 272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G. M./
Examiner, Art Unit 1795

/Alexa D. Neckel/
Supervisory Patent Examiner, Art Unit 1795